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## In the Claims

This listing of claims will replace all prior versions and listings of claims in the application:

- 1 1. (Previously Amended) A data transfer apparatus 2 transferring data from a data source to a data destination 3 comprising:
- a first-in-first-out buffer memory having an input connected to the data source, an output connected to said data destination and a predetermined number of data entries;
- a master queue counter storing a master count indicative of a number of data entries available for data storage within said first-in-first-out buffer memory, said master queue counter connected to the data source to decrement said master count upon allocation of data at said data source to be stored in said firstin-first-out buffer memory;
- 13 a remote queue counter storing a remote count indicative of a 14 number of data entries within said first-in-first-out buffer memory currently storing data, said remote queue counter connected to said 15 data source for incrementing said remote count upon allocation of 16 17 data at said data source to be stored in said first-in-first-out buffer memory, said remote queue counter connected to said data 18 19 destination for decrementing said remote count and generating a 20 decrement confirmation signal upon transfer of data out of said 21 first-in-first-out buffer memory to said data destination; and
- wherein said master queue counter is further connected to said remote queue counter for incrementing said master count upon receipt of said decrement confirmation signal.
- 2. (Original) The data transfer apparatus of claim 1, 2 wherein:

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3 said master queue counter is initialized to said predetermined

- 4 number of data entries of said first-in-first-out buffer memory;
- 5. and
- 6 said remote queue counter is initialized at zero.
- 1 3. (Original) The data transfer apparatus of claim 1,
- 2 wherein:
- 3 said data source may allocate data to said first-in-first-out
- buffer memory only if said master queue counter indicates a non-4
- zero number of data entries available for data storage within said 5
- first-in-first-out buffer memory; and 6
- 7 said data destination reads said first-in-first-out buffer
- 8 memory only if said remote queue counter is non-zero.
- 1 (Currently Amended) The data transfer apparatus of claim
- 1, wherein: 2
- 3 said data source may selectively annul allocation of data of
- said data source to be stored in said first-in-first-out buffer
- memory for data allocated but whose transmission is annulled, said 5
- 6 data source generating an annul increment signal upon annulling
- 7 data; and
- 8 said master queue counter is further connected to said data
- 9 source to increment said master count upon receipt of said annul
- 10 increment signal.
- 1 (Original) A method of transferring data from a data 2
- source to a data destination comprising the steps of:
- 3 maintaining a master count indicative of a number of data
- entries available for data storage within a first-in-first-out 4
- buffer memory; 5
- allocating data from the data source to the first-in-first-out 6
- 7 buffer memory only when the master count is non-zero;

- decrementing the master count upon allocation of data at the data source to be stored in the first-in-first-out buffer memory:
- 9 data source to be stored in the first-in-first-out buffer memory;
  10 maintaining a remote count indicative of a number of data
- 11 entries within the first-in-first-out buffer memory currently
- 12 storing data;
- incrementing the remote count upon allocation of data at said
- 14 data source to be stored in said first-in-first-out buffer memory;
- transferring data from the first-in-first-out buffer memory to
- 16 the data destination only if the remote count is non-zero;
- decrementing the remote count upon transfer of data out of the
- 18 first-in-first-out buffer memory to the data destination;
- 19 incrementing the master count upon confirmation of
- 20 decrementing of the remote count.
- (Previously Amended) The method of transferring data of
- 2 claim 5, further comprising the steps of:
- 3 initializing the master count to the number of data entries of
- 4 the first-in-first-out buffer memory; and
- 5 initializing the remote count to zero.
- 7. (Currently Amended) The method of transferring data of claim 5, wherein:
- 3 selectively annulling allocation of data of the data source to
- 4 be stored in the first-in-first-out buffer memory for data
- 5 <u>allocated but whose transmission is annulled;</u> and
- 6 incrementing the master count upon annulling allocation of 7 data.
- 8. (Previously Added) A data transfer apparatus transferring
- 2 data from a data source to a data destination in a plurality of
- 3 pipeline stages comprising:

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a first-in-first-out buffer memory having an input connected to the data source, an output connected to said data destination and a predetermined number of data entries;

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22 23 a master queue counter storing a master count indicative of a number of data entries available for data storage within said first-in-first-out buffer memory, said master queue counter connected to the data source to decrement said master count upon allocation of data at said data source to be stored in said first-in-first-out buffer memory during a first pipeline stage;

a remote queue counter storing a remote count indicative of a number of data entries within said first-in-first-out buffer memory currently storing data, said remote queue counter connected to said data source for incrementing said remote count upon allocation of data at said data source to be stored in said first-in-first-out buffer memory during a second pipeline stage after said first pipeline stage, said remote queue counter connected to said data destination for decrementing said remote count and generating a decrement confirmation signal upon transfer of data out of said first-in-first-out buffer memory to said data destination during a third pipeline stage after said second pipeline stage; and

wherein said master queue counter is further connected to said remote queue counter for incrementing said master count upon receipt of said decrement confirmation signal during a fourth pipeline stage after said third pipeline stage.

- 9. (Previously Added) The data transfer apparatus of claim 8, wherein:
- said master queue counter is initialized to said predetermined number of data entries of said first-in-first-out buffer memory; and
- 6 said remote queue counter is initialized at zero.

1 10. (Previously Added) The data transfer apparatus of claim 2 8, wherein:

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10 11 said data source may allocate data to said first-in-first-out buffer memory during said first pipeline stage only if said master queue counter indicates a non-zero number of data entries available for data storage within said first-in-first-out buffer memory; and said data destination reads said first-in-first-out buffer memory during said third pipeline stage only if said remote queue counter is non-zero.

1 11. (Previously Added) The data transfer apparatus of claim 2 8, wherein:

said data source may selectively annul allocation of data of said data source to be stored in said first-in-first-out buffer memory during a fourth pipeline stage after said first pipeline stage and before said second pipeline stage, said data source generating an annul increment signal upon annulling data; and

said master queue counter is further connected to said data source to increment said master count upon receipt of said annul increment signal during a fifth pipeline stage after said fourth pipeline stage.